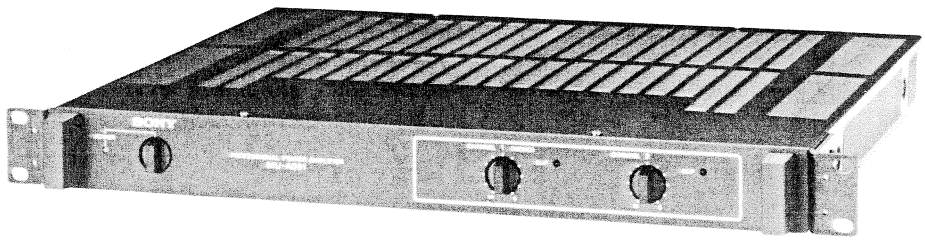
MU-A051

SERVICE MANUAL

698

AEP Model



SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 8 ohms loads, both channesl driven, from 20–20,000 Hz; rated 32 watts per channel minimum RMS power with no more than 0.2% total harmonic distortion from 250 milliwatts to rated output.

OTHER SPECIFICATIONS

Rated output power	50 W + 50 W (both channels driven into 4 ohms, 20–20,000 Hz) 32 W + 32 W (both channels driven into 8 ohms, 20–20,000 Hz) 100 W (into 8 ohms, 20–20,000 Hz, monaural)
Power bandwidth	10 Hz–80 kHz (25 W, both channels driven into 4 ohms, 0.1% THD)
Damping factor	More than 100 (at 1 kHz, 4 ohms, 25 W)
Harmonic distortion	Less than 0.2% (4-ohm load effective output with both channels dirven into 20–20,000 Hz)
Residual noise	Less than 40 μV (IHF-A) Less than 100 μV (WIDE)
Input impedance	50 k ohms
Input sensitivity	1.1 Vrms (4 ohms, 50 W)
Limiter	Maximum input level: 5.0 Vrms Threshold level: 1.1 Vrms
Indicators	POWER indicator CLIP (clipping) indicators (for channels 1 and 2)
Input connectors	INPUT 1/MONO: Phone jack ×2 Cannon XLR-3-31 type ×1 INPUT 2: Phone jack ×2 Cannon XLR-3-31 type ×1
Output connectors	OUTPUT 1 and OUTPUT 2: Screw-on terminal ×2
Power requirements	220 AC, 50/60 Hz
Power consumption	90 W
Dimensions	Approx. 430 × 44 × 350 mm (w/h/d) (17 × 1 3/4 × 13 7/8 inches) without including projecting parts
Weight	Approx. 7.8 kg (16 lb 3 oz)
Accessories supplied	Glass tube fuse ×1

MICROFILM

POWER AMPLIFIER

SONY®

AUD

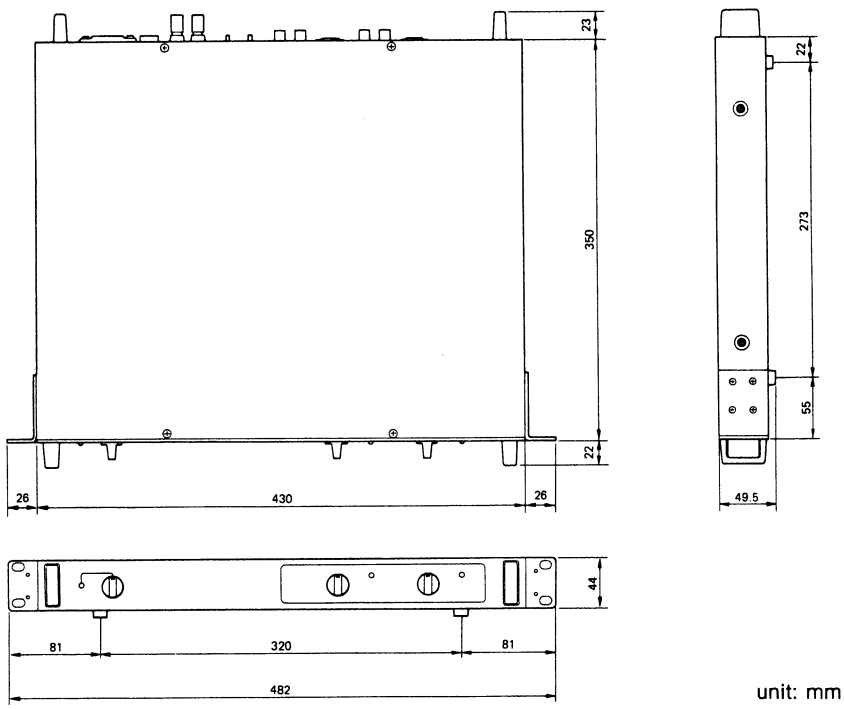
691

SECTION 1
GENERAL

1-1. OUTLINE

- 50 W + 50 W high power output out of a compact and thin body (both channels driven into 4-ohm load, 20 Hz - 20 kHz).
- 100 W power output with BTL connections:
  The BTL connections are enabled by the OPERATION switch to use the unit in monaural mode for increased power output (8-ohm load, 20 Hz - 20 kHz).
- Limiter circuit for attenuation of output signal clips:
  Attenuating the clips due to excessive input reduces sound distortion.
- Stacking outputs for easy connections with other amplifier(s) in series:
  Additional signal dividers are not required to send signals to other amplifiers.
- Mounting in a 19-inch standard rack (EIA):
  The mounting brackets on both sides of the front panel enable easy mounting. To mount over another equipment in a rack, remove the feet from the bottom simply by pulling out the fixing pins with a pair of tweezers or a similar device. (The bracket can also be removed when the unit is to be used on a shelf or in an audio component rack.)

1-2. DIMENSIONS



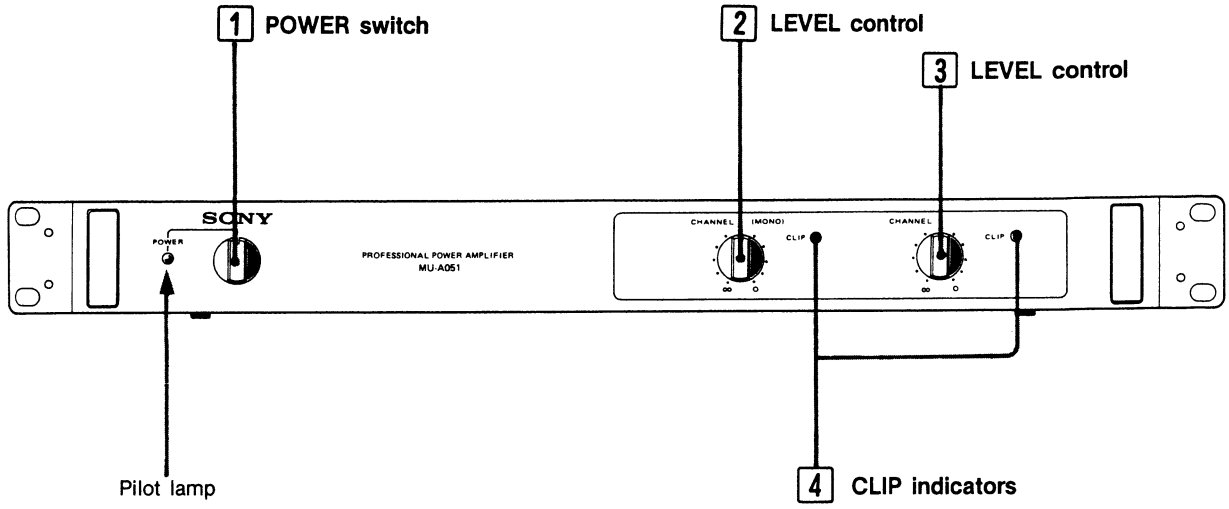
unit: mm

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

1-3. LOCATION AND FUNCTION OF PARTS

Front Panel



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1 POWER switch
Turn to the right to turn the power on. The pilot lamp lighs while the power is on. To turn the power off, turn the switch to the left.

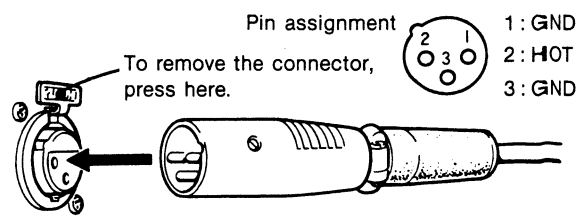
2 LEVEL control (for channel 1 or monaural use)
Controls the input level of channel 1.
When the unit is used in monaural mode, the input level is adjusted with this control.

3 LEVEL control (for channel 2)
Controls the input level of channel 2.
When the unit is used in monaural mode, this control is detached from the circuit and has no effect.

4 CLIP (clipping) indicators
Light up when the output signal clips due to excessive input or overload.

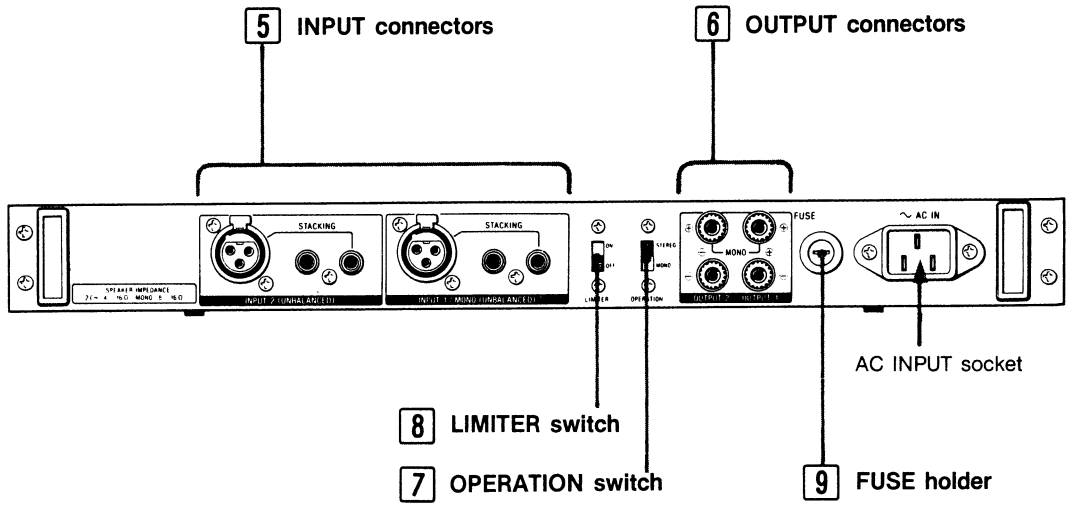
5 INPUT connectors
Connect to the output connectors of a mixer or a preamplifier, etc.
The Cannon type connector and phone jacks are connected in parallel in the unit so that other amplifiers can be connected to these connectors to which no input signal is connected.

Cannon XLR-3-31 type connectors (unbalanced)



ø6.3 phone jacks (unbalanced)

Rear Panel



6 OUTPUT connectors
Connect speakers here. Connect the (+) terminal of the speaker to the red terminal of the connectors, and the (−) terminal of the speaker to the black terminal of the connectors.
When the unit is used in monaural mode, only red termials are used. Connect the (+) terminal of the speaker to the OUTPUT 1 red terminal, and the (−) terminal to the OUTPUT 2 red terminal.

7 OPERATION switch
Selects the operation mode of the unit, either stereo or monaural.
To drive channel 1 and 2 independently, set the switch to STEREO. When using the unit in monaural, set the switch to MONO and make the necessory speaker connection changes.
- Be sure to turn the power off before changing the OPERATION switch setting.

8 LIMITER switch
Activates the built-in limiter circuit.
When a signal with a wide dynamic range (range between maximum and minimum sound levels) is applied, or when the level of a sudden input exceeds the amplifier's maximum power output level, the CLIP indicator(s) will light and the sound distortion will increase greatly. In such a case, set the LIMITER switch to ON to reduce the distortion.
- Be sure to turn off the power before turning the LIMITER switch on and off.

9 FUSE holder
Contains a fuse which prevents overcurrent.
When replacing the fuse, use a fuse with an appropriate capacity.

1-4. CONNECTIONS

BEFORE CONNECTIONS

Power supply

To avoid serious damage of equipment or activating circuit breakers, observe these cautions:

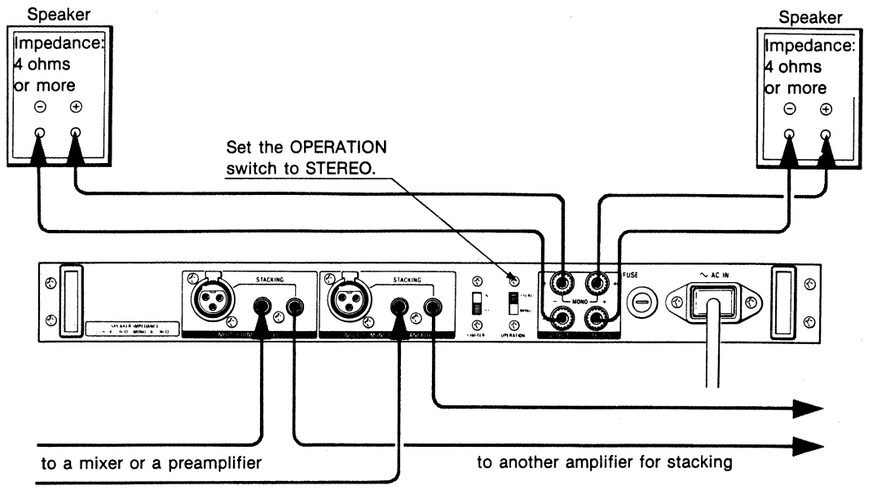
- Do not use an extension cord of small amperage capacity.
- Do not use the other electrical equipments of large power demand on the same load with this unit.

Cord connections

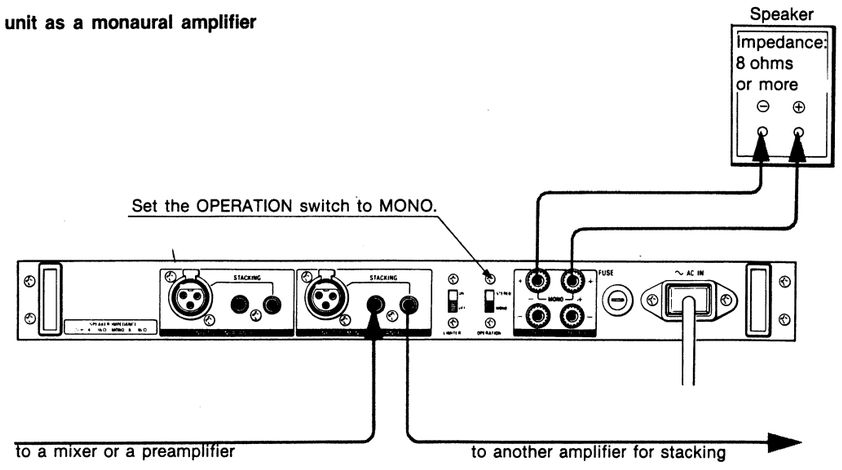
- The plugs and connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- To disconnect the cord, pull it out by grasping the plug or the connector. Never pull the cord itself.

Before connection, make sure that the POWER switch is set to OFF.

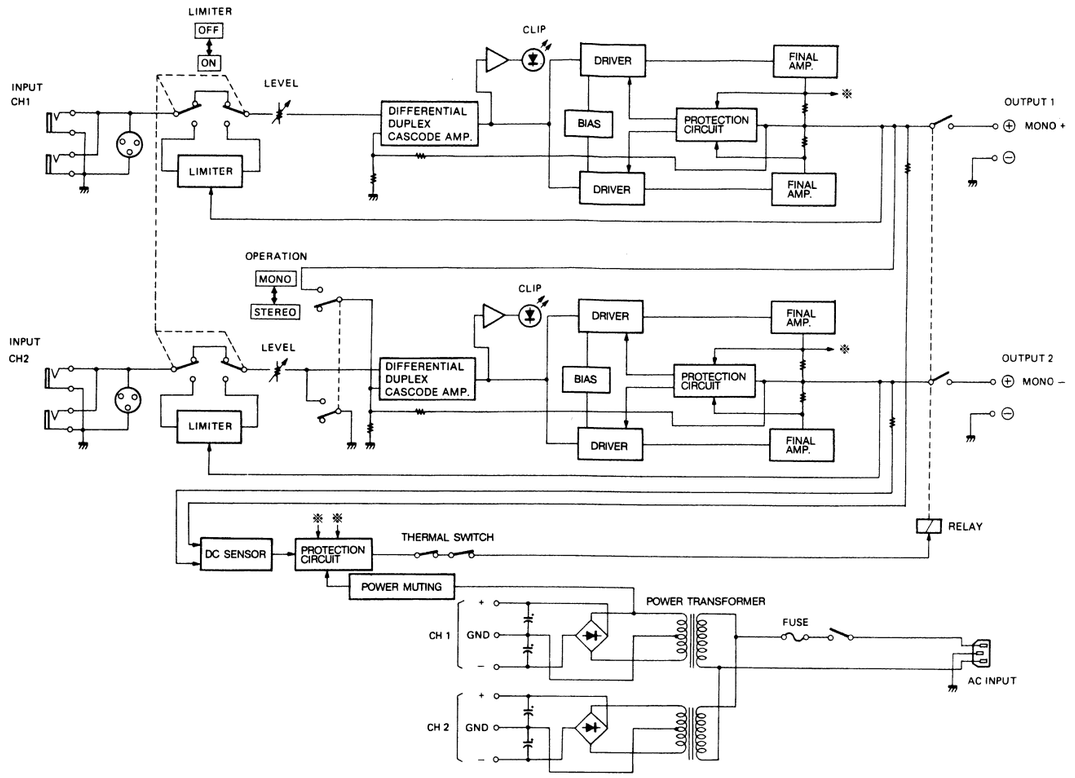
To use the unit as a stereo amplifier



To use the unit as a monaural amplifier



BLOCK DIAGRAM



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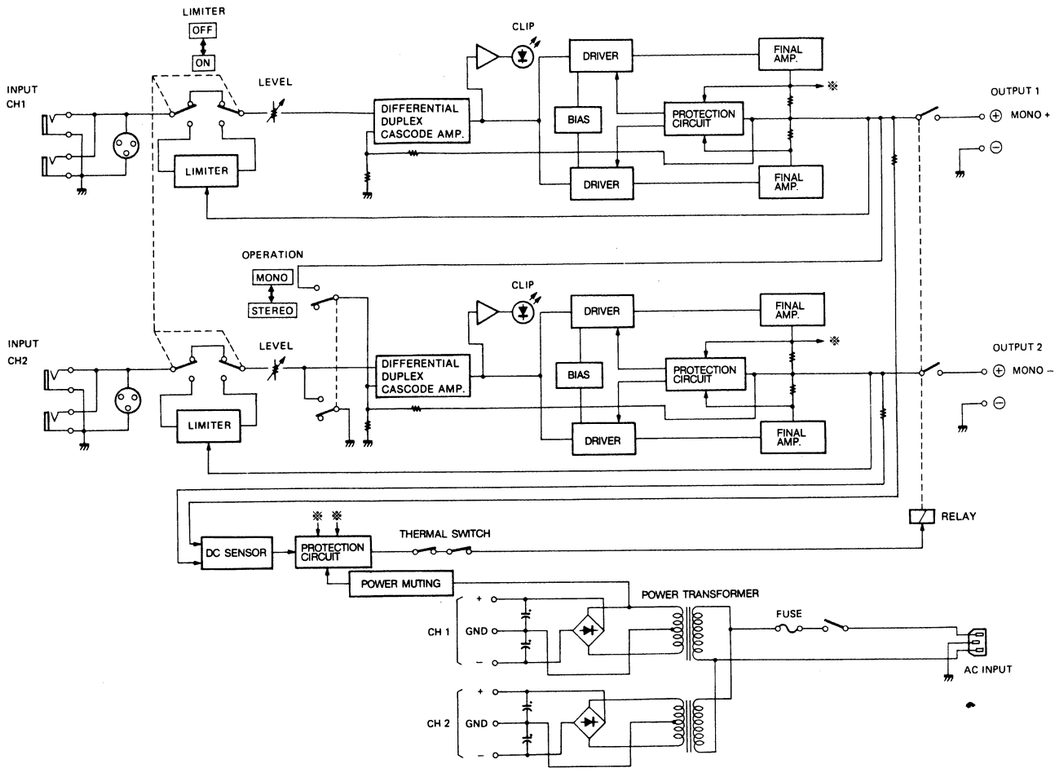
BLOCK DIAGRAM



SECTION 2
ADJUSTMENT

[DC Bias Adjustment]

Setting:

. LIMITER switch : OFF
. OPERATION switch : STEREO
. RV201a : Fully turn it counterclockwise.
RV201b : Fully turn it clockwise.

Procedure:

1. Turn on the power supply without load.
2. After 1 minute, both ends voltage of R227a (ch1) and R227b (ch2) shall be adjusted to 2 — 2.5mV by RV201a (ch1) and RV201b (ch2).
3. While setting the power supply to ON for 30 minutes, the both ends voltage shall be within 10mV.
When it is deviated, make re-adjustment for it at 6 — 10mV.

[Limiter Level Adjustment]

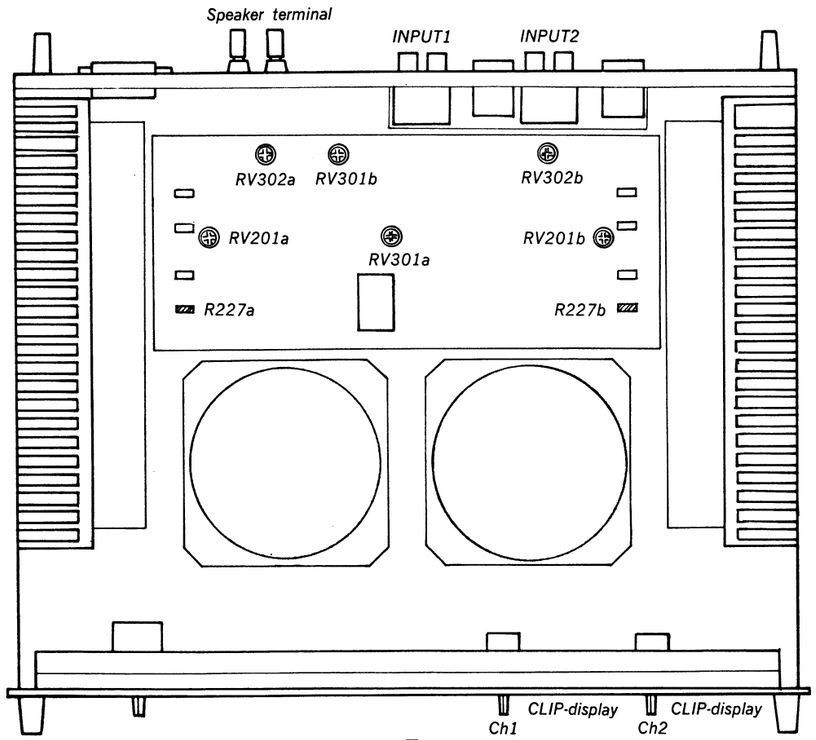
Setting:

. LIMITER switch : ON
. OPERATION switch : STEREO
. RV301a, b, RV302a, b : Mechanical center
. Attenuator : 0dB

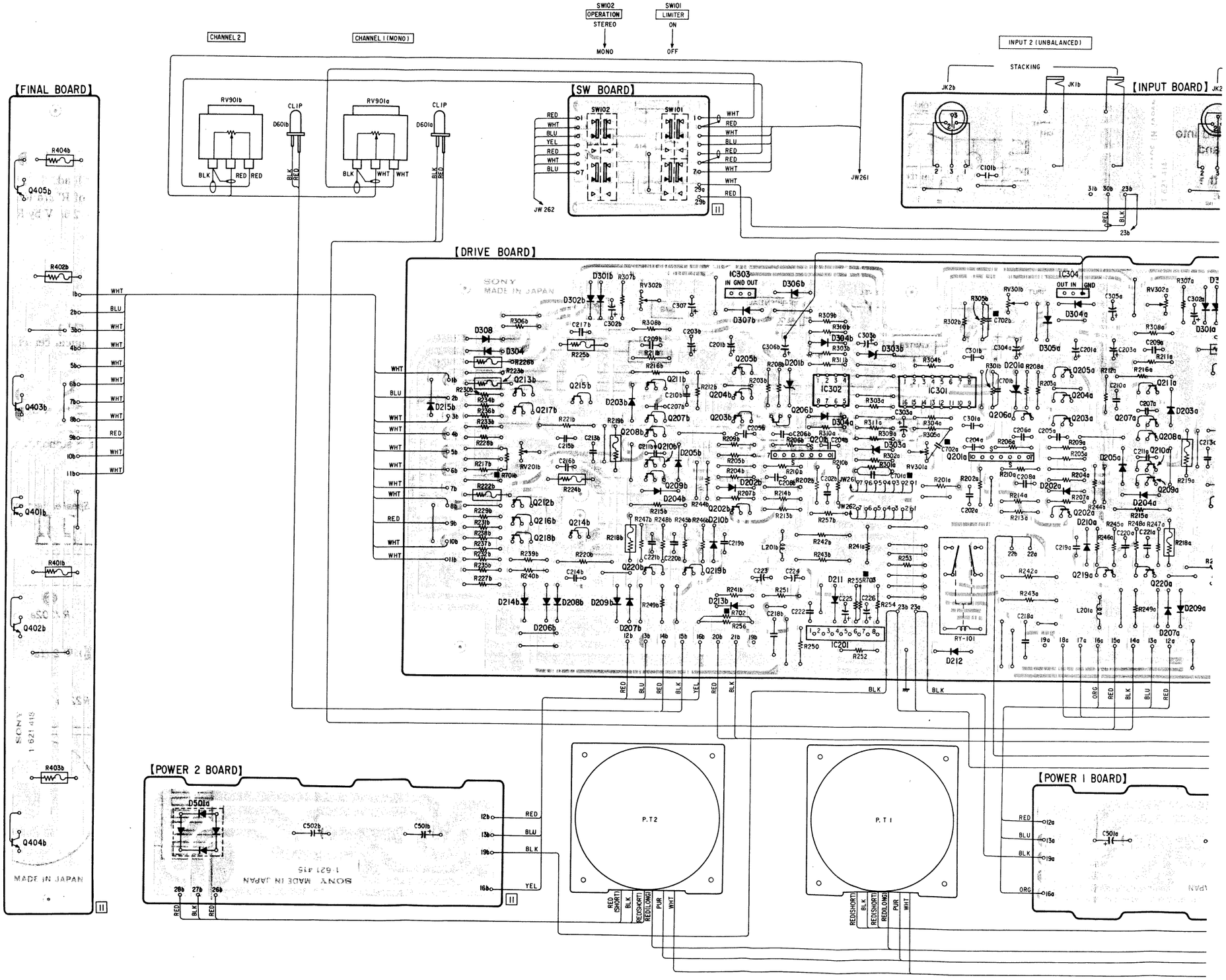
Procedure:

1. Connect the negative resistance 4Ω to each speaker terminal, and turn on the power supply.
2. Input the signal of 50Hz/5V to the standard jack of INPUT.
3. Adjust RV302a (ch1) and RV302b (ch2) not to light CLIP-display.
(※RV301a and RV301b are kept at Mechanical Center.)

Adjusting location: DRIVE board

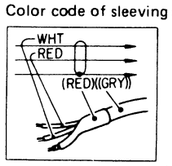


3-1. MOUNTING DIAGRAM



Note:

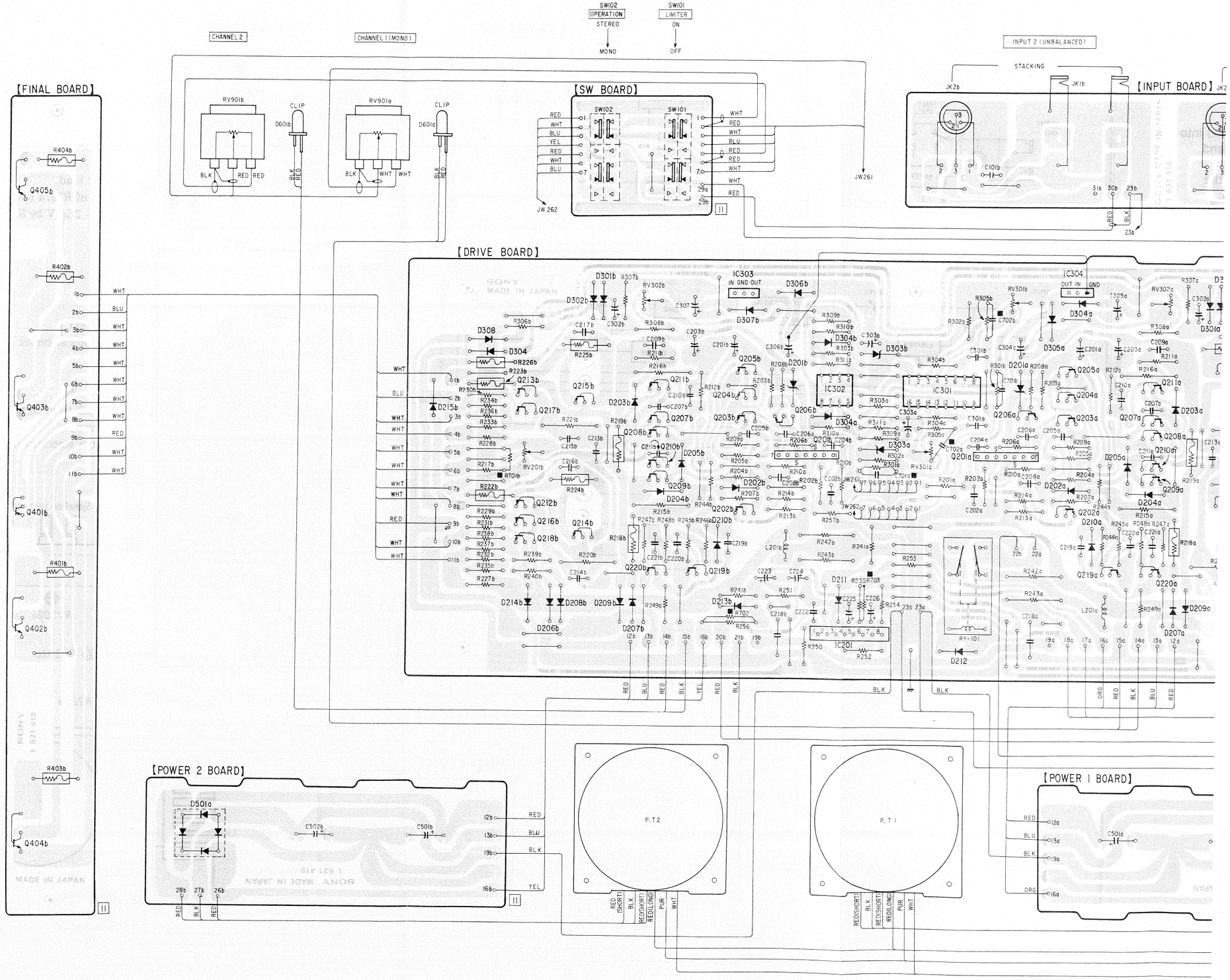
- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.

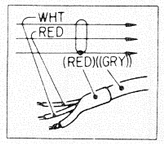
※1: With the set, D215a is displayed as D204a.
※2: With the set, D215b is displayed as D204b.
※3: With the set, D310 is displayed as D304.
※4: With the set, D305a is displayed as D305.
※5: With the set, R404b is displayed as R401b.
※6: It is interconnected with RY101.

3-1. MOUNTING DIAGRAM



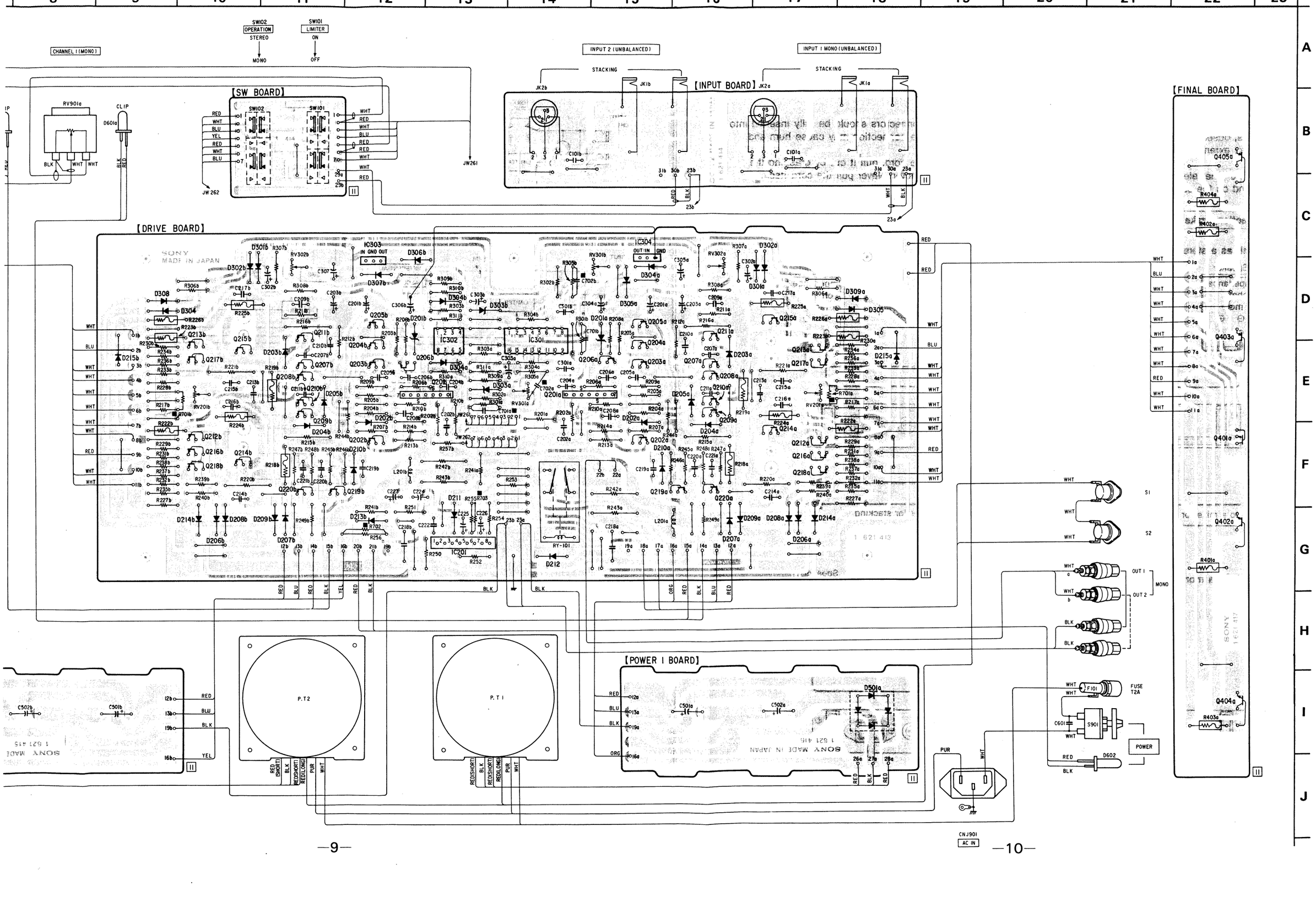
Note:

- Color code of sleeving over the end of the jacket.



- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.

※1: With the set, D215a is displayed as D204a.
※2: With the set, D215b is displayed as D204b.
※3: With the set, D310 is displayed as D304.
※4: With the set, D305a is displayed as D305.
※5: With the set, R404b is displayed as R401b.
※6: It is interconnected with RY101.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D
E
F
G
H
I
J
CHANNEL I (MONO)
SW102
OPERATION
STEREO
MONO
SW101
LIMITER
ON
OFF
INPUT 2 (UNBALANCED)
INPUT 1 MONO (UNBALANCED)
STACKING
【SW BOARD】
【INPUT BOARD】
【FINAL BOARD】
【DRIVE BOARD】
【POWER I BOARD】
RV901a
CLIP
D601a
JW261
JW 262
JK2b
JK1b
JK2a
JK1a
C101b
C101a
IC303
IC304
IC302
IC301
IC201
RY-101
D212
P.T2
P.T1
S1
S2
OUT 1
OUT 2
MONO
F101
FUSE T2A
S901
POWER
D602
C601
D501a
C502b
C501b
C502a
C501a
CN901
AC IN
PUR
SONY MADE IN JAPAN
1 621 415

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

A B C D E F G H I J

CHANNEL I (MONO)

SW102 OPERATION STEREO MONO

SW101 LIMITER ON OFF

INPUT 2 (UNBALANCED)

INPUT 1 MONO (UNBALANCED)

【SW BOARD】

【INPUT BOARD】

【FINAL BOARD】

【DRIVE BOARD】

【POWER I BOARD】

RV901a CLIP D601a BLK WHT WHT BLK RED

RED WHT BLU YEL RED WHT BLU JW262 JW261

STACKING JK2b JK1b JK2a JK1a C101b C101a

WHT RED WHT BLU RED RED WHT WHT RED

IC303 IN GND OUT IC304 OUT IN GND IC302 IC301 IC201 RY-101 D212

P.T2 P.T1

RED BLU BLK YEL ORG

RED (SHORT) BLK RED (SHORT) RED (LONG) PUR WHT

S1 S2 OUT 1 OUT 2 MONO

F101 FUSE T2A S901 POWER D602

CNJ901 AC IN

3-2. SCHEMATIC DIAGRAM

【INPUT BOARD】

【SWITCH BOARD】

【DRIVE BOARD】

【POWER BOARD】

SW101 LIMITER ON OFF

SW102 OPERATION STEREO MONO

RV901a CH1 50K 15A

RV901b CH2 50K 15A

JK1a JK1b JK2a JK2b

JW101 JW102 JW103 JW104 JW105 JW106 JW107 JW108

C101a 0.0022 C101b 0.0022

JW261 JW262

IC301 1/2 LM13600N

IC302 1/2 μPC4558C

IC303 μPC7815H

IC304 μPC7915H

IC201 μPC1237H

RV201a RV201b DC BIAS

Q201a Q201b μPA68H

Q206a Q206b

Q207a Q207b 2SD1585L

Q208a Q208b

Q209a Q209b 2SD1585L

Q210a Q210b

Q211a Q211b

Q212a Q212b 2SC2275-P

Q213a Q213b 2SA985-P

Q214a Q214b 2SC2837-O

Q215a Q215b 2SA985P

Q216a Q216b

Q217a Q217b

Q218a Q218b

Q219a Q219b

Q220a Q220b

Q401a Q401b

Q402a Q402b

Q403a Q403b 2SA1186-O

Q404a Q404b

Q405a Q405b 2SA1186-O

D201a D201b HZ6.8IL

D202a D202b 1S1555

D203a D203b 1S1555

D205a D205b

D206a D206b

D207a D207b 10E2

D208a D208b

D209a D209b 10E2

D210a D210b

D211

D212

D213

D215a D215b 1S1555

D301a D301b

D302a D302b

D303a D303b HZ5.6EB1

D304a D304b

D305a D305b

D306

D307 1S1555

D308 10E2

D309 10E2

D310 1S1555

D601a D601b CLIP

D602 POWER

RY101

PT1 PT2

L201a L201b

C201a 100μ/50 C201b 100μ/50

C202a 330P C202b 330P

C203a 100μ/50 C203b 100μ/50

C204a 0.1μ C204b 0.1μ

C205a 100P C205b 100P

C206a C206b

C207a 15P C207b 15P

C208a 1μ C208b 1u

C209a 100P C209b 100P

C210a C210b

C211a 15P C211b 15P

C212a 0.027μ C212b 0.027μ

C213a 0.22μ C213b 0.22

C214a 0.027μ C214b 0.027μ

C215a 0.027μ C215b 0.027μ

C216a 0.027μ C216b 0.027μ

C217a 0.027μ C217b 0.027μ

C219a 0.22 C219b 0.1μ

C220a 0.027μ C220b 0.027μ

C221a 0.0022 C221b 0.0022

C222 0.001

C224 47μ/16V

C225 10μ/50V

C226 10μ/50V

C301a 1μ C301b 1μ

C302a 10μ/50V C302b 10μ/50V

C303a 10μ/50V C303b 10μ 50V

C304 10μ /50V

C305 100μ /50V

C306 100μ 50V

C307 100μ/50V

C501a 8200μ/50V C501b 8200μ/50V

C502a 8200μ /50V C502b 8200μ /50V

R201a 1K R201b 1K

R202a 220K R202b 220K

R203a 8.2K R203b 8.2K

R204a 2.2K R204b 2.2K

R205a 1K R205b 1K

R206a 220K R206b 220K

R207a 1M R207b 1M

R208a 4.7K R208b 4.7K

R209a 2.2K R209b 2.2K

R210a 2.2K R210b 2.2K

R211a 470 R211b 470

R212a 47K R212b 47K

R213a 1M R213b 1M

R214a 27K R214b 27K

R215a 470 R215b 470

R216a R216b

R217a 3.9K R217b 3.9K

R218a R218b

R220a 1K R220b 1K

R221a 1K R221b 1K

R222a R222b

R227a 0.22/2W R227b 0.22/2W

R228a 0.22/2W R228b 0.22/2W

R229a 0.22/2W R229b 0.22/2W

R230a 0.22/2W R230b 0.22/2W

R231a 1K R231b 1K

R232a 1K R232b 1K

R233a 1K R233b 1K

R234a 1K R234b 1K

R235a 220 R235b 220

R236a 220 R236b 220

R237a 1.5K R237b 1.5K

R238a 1.5K R238b 1.5K

R239a 15K R239b 15K

R240a 15K R240b 15K

R241a 330K R241b 330K

R242a 10/1W R242b 10/1W

R244a 33K R244b 33K

R245a 10K R245b 10K

R246a 33K R246b 33K

R247a 10K R247b 10K

R248a 68K R248b 68K

R249a 6.8K R249b 6.8K

R250 10K

R251a 220K R251b 220K

R252 220K

R253 15K

R254 10K

R255

R256 3.3K

R301a 100K R301b 100K

R302a 1K R302b 1K

R303a 33K R303b 33K

R304a 33K R304b 33K

R305a 100K R305b 100K

R306a 560 R306b 560

R307a 33K R307b 33K

R308a R308b

R309a 10K R309b 10K

R310a 100K R310b 100K

R311a 3.9K R311b 3.9K

RV301a 301a B1K RV301b 301b B1K

RV302a B47K RV302b B47K

RV201a B1K RV201b B1K

R701a 2.7K R701b 2.7K

R702 3.3K

R703 150

R257 27K

C702a 0.0047 C702b

C701a 0.001 C701b 0.001

3-2. SCHEMATIC DIAGRAM

【INPUT BOARD】

【SWITCH BOARD】

【DRIVE BOARD】

【POWER BOARD】

SW101 LIMITER ON OFF

SW102 OPERATION STEREO MONO

RV901a CH1 50K 15A

RV901b CH2 50K 15A

JK1a JK1b JK2a JK2b

JW101 JW102 JW103 JW104 JW105 JW106 JW107 JW108

JW261 JW262

Q201a Q201b μPA68H

Q204a Q204b Q205a Q205b Q202a Q202b Q203a Q203b Q207a Q207b Q208a Q208b

Q206a Q206b Q209a Q209b 2SD1585L

Q210a Q210b Q211a Q211b

Q212a Q212b 2SC2275-P

Q213a Q213b 2SA985-P

Q214a Q214b 2SC2837-O

Q215a Q215b 2SA985P

Q216a Q216b Q217a Q217b 2SA1186-O

Q218a Q218b

Q219a Q219b 6.8K

Q220a Q220b

Q401a Q401b

Q402a Q402b Q403a Q403b Q404a Q404b Q405a Q405b

RV201a RV201b DC BIAS

IC201 μPC1237H

IC301 1/2 LM13600N

IC302 1/2 μPC4558C

IC303 μPC7815H

IC304 μPC7915H

D201a D201b HZ6BIL

D202a D202b 1S1555

D203a D203b 1S1555

D207a D207b 10E2

D209a D209b 10E2

D211 D212 D213

D214a D214b

D215a D215b 1S1555

D301a D301b HZ5.6EB1

D303a D303b HZ5.6EB1

D305 D304 10E2

D308 D309 10E2

D310 1S1555

D305a D306

D501a D501b

D601a D601b CLIP

D602 POWER

RY101

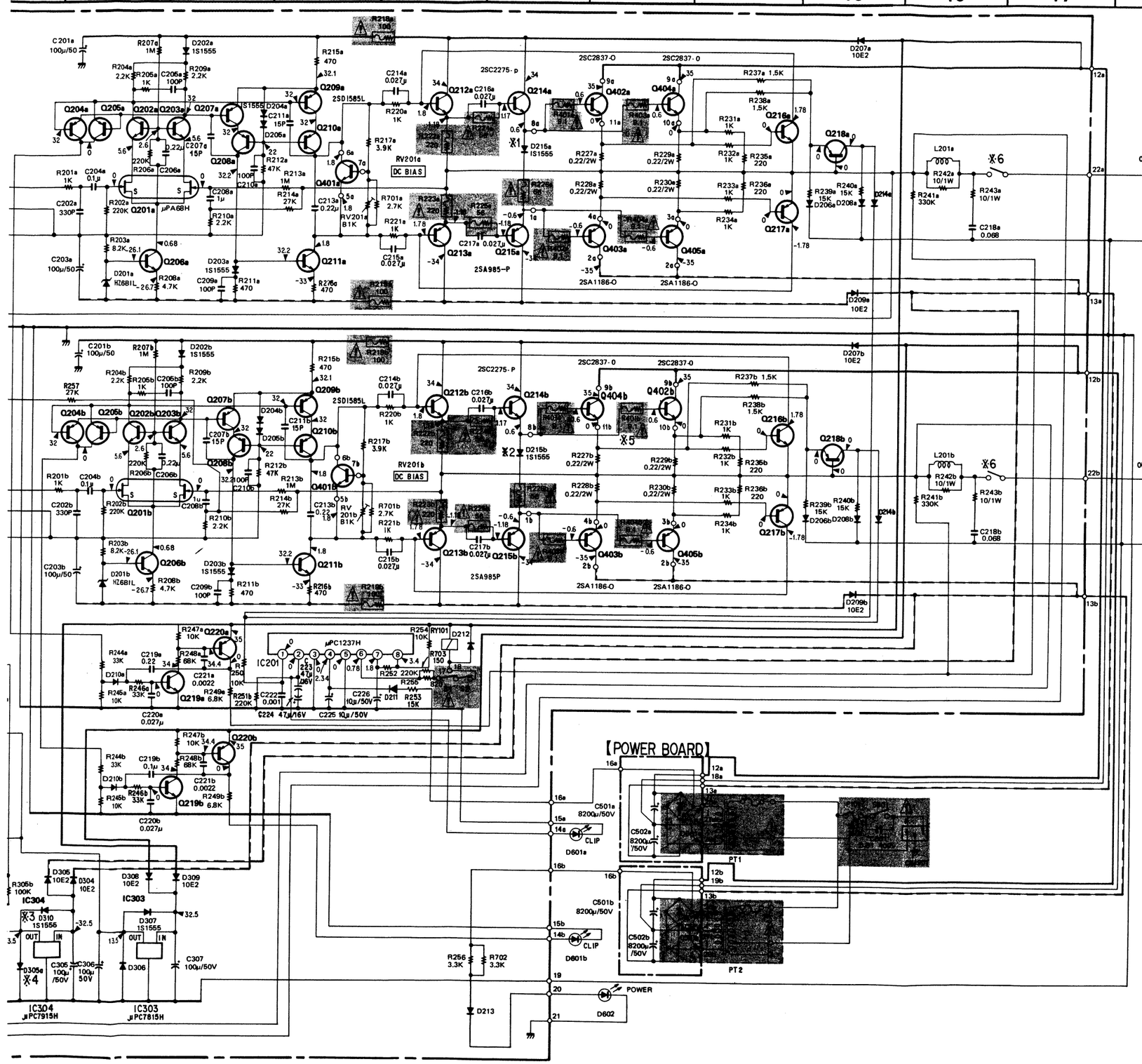
S1 S2

F101 2A 250V

S901

PT1 PT2

CN901



Ref.No.	Diode	Ref.No.	Diode
D201ab	HZ6B2L	Q201ab	μPA68HA
D202ab	1S1555	Q202ab	2SC1845FA
D203ab	1S1555	Q203ab	2SC1845FA
D204ab	1S1555	Q204ab	2SA992FA
D205ab	1S1555	Q205ab	2SA992FA
D206ab	1S1555	Q206ab	2SC1845FA
D207ab	10E2	Q207ab	2SA992FA
D208ab	1S1555	Q208ab	2SA992FA
D209ab	10E2	Q209ab	2SA992FA
D210ab	1S1555	Q210ab	2SA992FA
D211	1S1555	Q211ab	2SC1845FA
D212	1S1555	Q212ab	2SC1845FA
D213	1S1555	Q213ab	2SA992FA
D214ab	1S1555	Q214ab	2SC2275P
D215ab	1S1555	Q215ab	2SA985P
D301ab	1S1555	Q216ab	2SC1845FA
D302ab	1S1555	Q217ab	2SA992FA
D303ab	RD5.6EB2	Q218ab	2SA992FA
D304ab	1S1555	Q219ab	2SC1845FA
D304	10E2	Q220ab	2SA992FA
D305a	1S1555	Q401ab	2SD1585L
D305	10E2	Q402ab	2SC2837Y
D306	1S1555	Q403ab	2SA1186Y
D307	1S1555	Q404ab	2SC2837Y
D308	10E2	Q405ab	2SA1186Y
D309	10E2		
D310a	1S1555	IC201	μPC1237HA
D501ab	D5FB20F	IC301	LM13600N
D601ab	TLR-123	IC302	μPC4558C
D602	SEL2310G	IC303	μPC7815H
		IC304	μPC7915H

Note:

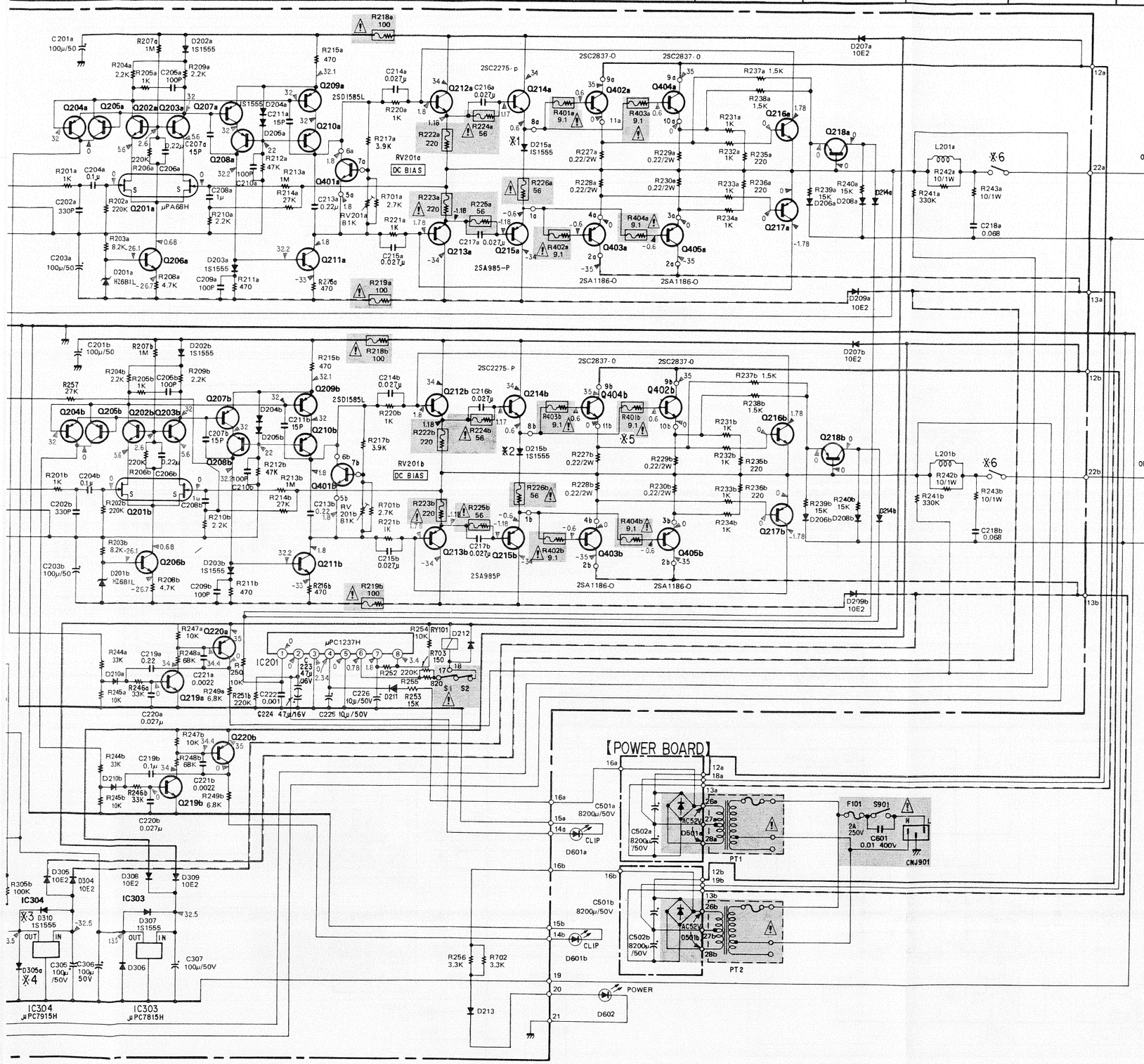
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Switch

Ref. No.	Switch	Position
SW101	LIMITER	ON
SW102	OPERATION	STEREO
S1	THERMOSTAT	OFF
S2	THERMOSTAT	OFF
S901	POWER	OFF

※1: With the set, D215a is displayed as D204a.
※2: With the set, D215b is displayed as D204b.
※3: With the set, D310 is displayed as D304.
※4: With the set, D305a is displayed as D305.
※5: With the set, R404b is displayed as R401b.
※6: It is interconnected with RY101.

- Readings are taken under no-signal conditions with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



Ref.No.	Diode	Ref.No.	Diode
D201ab	HZ6B2L	Q201ab	μPA68HA
D202ab	1S1555	Q202ab	2SC1845FA
D203ab	1S1555	Q203ab	2SC1845FA
D204ab	1S1555	Q204ab	2SA992FA
D205ab	1S1555	Q205ab	2SA992FA
D206ab	1S1555	Q206ab	2SC1845FA
D207ab	10E2	Q207ab	2SA992FA
D208ab	1S1555	Q208ab	2SA992FA
D209ab	10E2	Q209ab	2SA992FA
D210ab	1S1555	Q210ab	2SA992FA
D211	1S1555	Q211ab	2SC1845FA
D212	1S1555	Q212ab	2SC1845FA
D213	1S1555	Q213ab	2SA992FA
D214ab	1S1555	Q214ab	2SC2275P
D215ab	1S1555	Q215ab	2SA985P
D301ab	1S1555	Q216ab	2SC1845FA
D302ab	1S1555	Q217ab	2SA992FA
D303ab	RD5.6EB2	Q218ab	2SA992FA
D304ab	1S1555	Q219ab	2SC1845FA
D304	10E2	Q220ab	2SA992FA
D305a	1S1555	Q401ab	2SD1585L
D305	10E2	Q402ab	2SC2837Y
D306	1S1555	Q403ab	2SA1186Y
D307	1S1555	Q404ab	2SC2837Y
D308	10E2	Q405ab	2SA1186Y
D309	10E2		
D310a	1S1555	IC201	μPC1237HA
D501ab	D5FB20F	IC301	LM13600N
D601ab	TLR-123	IC302	μPC4558C
D602	SEL2310G	IC303	μPC7815H
		IC304	μPC7915H

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Switch

Ref. No.	Switch	Position
SW101	LIMITER	ON
SW102	OPERATION	STEREO
S1	THERMOSTAT	OFF
S2	THERMOSTAT	OFF
S901	POWER	OFF

※1: With the set, D215a is displayed as D204a.
※2: With the set, D215b is displayed as D204b.
※3: With the set, D310 is displayed as D304.
※4: With the set, D305a is displayed as D305.
※5: With the set, R404b is displayed as R401b.
※6: It is interconnected with RY101.

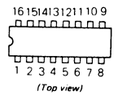
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- **Semiconductor Lead Layouts**

UPC1237HA

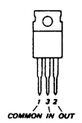
LM13600N



UPC4558C

μPC7815H

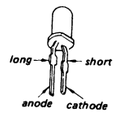
μPC7915H



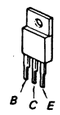
μPA68HA

2SA992FA
2SC1845FA

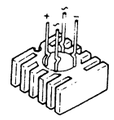
TLR123
TLG124A



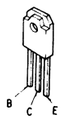
2SA985P
2SC2275P



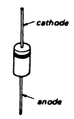
D5FB20F



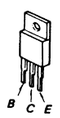
2SA1186Y
2SC2837Y



1S1555
HZ6B2L
HZ5.6EB2
10E-2



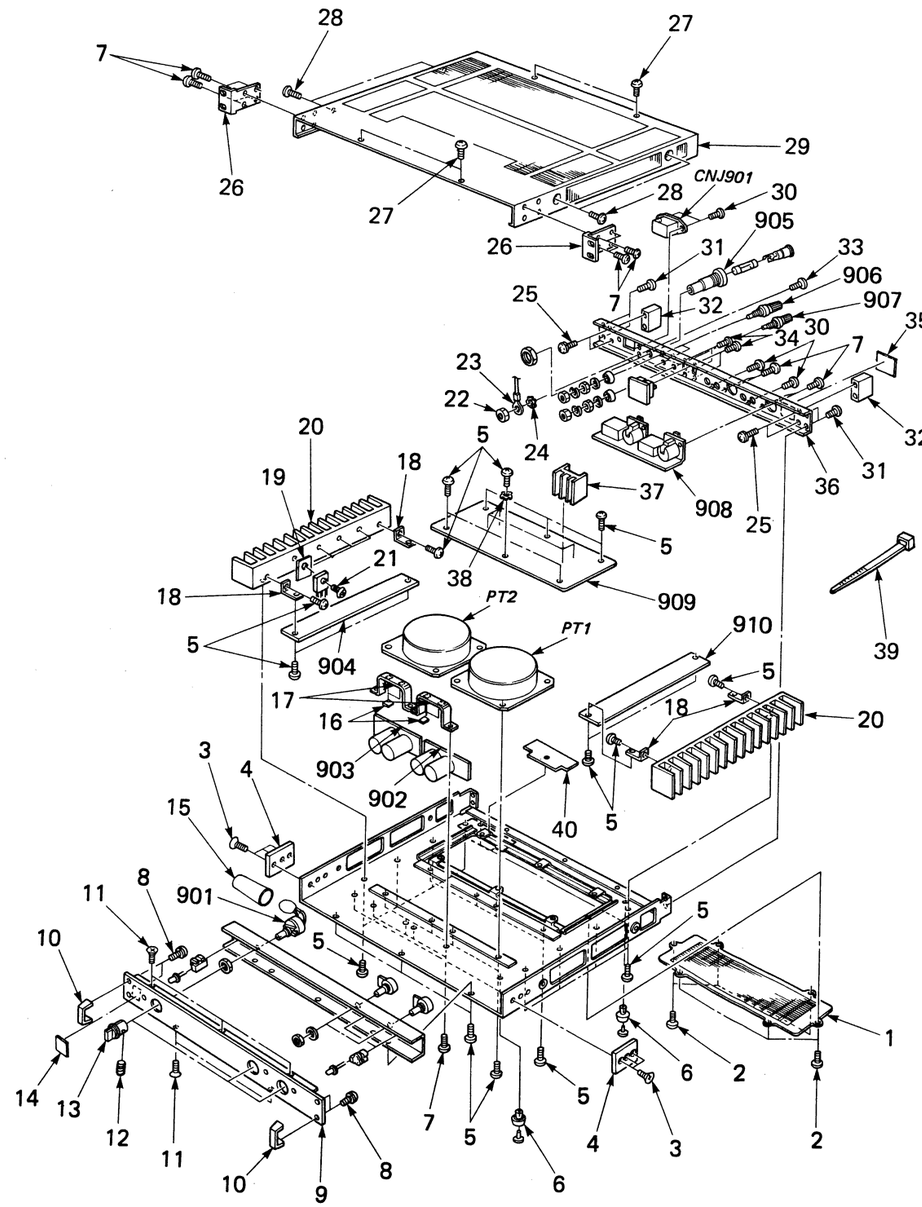
2SD1585L



SECTION 4
EXPLODED VIEW AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  (RED) = Cabinet's Color; (WHITE) = Parts' Color

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

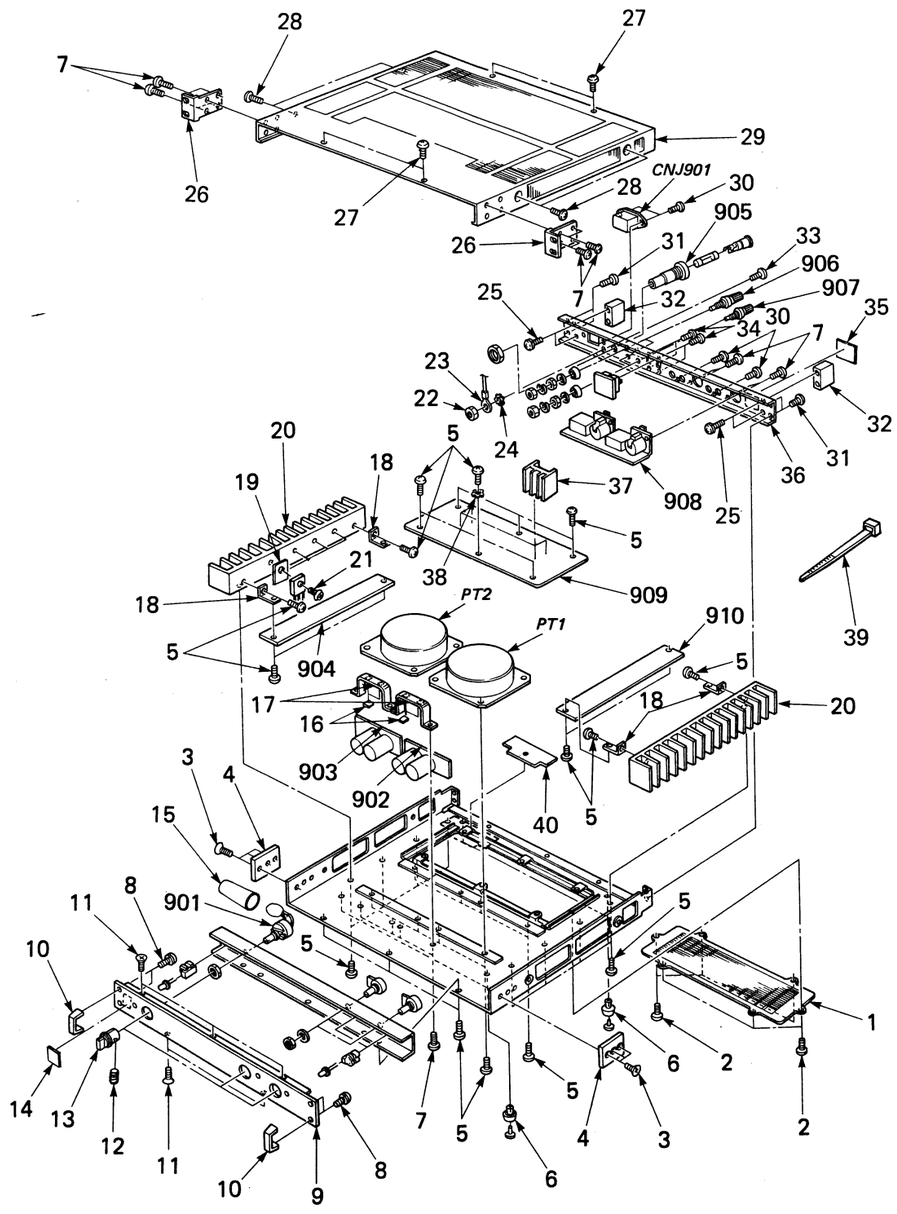


No.	Pa
1	*2-
2	7-
3	7-
4	*2-
5	7-
6	*3-
7	7-
8	7-
9	2-
10	2-
11	7-
12	3-
13	2-
14	*3-
15	*4-
16	*2-
17	*2-
18	*2-
19	4-
20	*2-
21	7-
22	7-
23	*4-
24	7-
25	7-
26	*2-
27	2-
28	7-
29	2-
30	7-

SECTION 4
EXPLODED VIEW AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.



No.	Part No.	Description
1	*2-335-552-01	PLATE, BOTTOM
2	7-682-545-09	SCREW +B 3X4
3	7-682-261-09	SCREW +K 4X8
4	*2-335-568-01	SPACER, RACK MOUNT
5	7-682-547-09	SCREW +B 3X6
6	*3-670-155-11	FOOT
7	7-682-549-09	SCREW +B 3X3
8	7-682-660-09	SCREW +PS 4X6
9	2-335-494-01	PANEL, FRONT
10	2-335-495-01	HANDLE
11	7-685-245-19	SCREW +K 3X6TP
12	3-701-505-00	SET SCREW 3X10
13	2-335-569-02	KNOB
14	*3-703-710-41	STICKER, SONY SYMBOL (12)
15	*4-875-455-22	CAP, PROTECTION
16	*2-335-566-01	SPACER
17	*2-335-498-01	BRACKET, CONDENSER
18	*2-335-567-01	CHANNEL
19	4-879-937-00	SHEET, PROTECTION, TV
20	*2-335-491-02	HEAT SINK
21	7-682-548-09	SCREW +B 3X8
22	7-684-024-04	NUT M4
23	*4-870-539-00	LUG, EARTH
24	7-623-423-07	L, W, M4
25	7-682-647-09	SCREW +PS 3X6
26	*2-235-501-01	BRACKET, RACK MOUNT
27	2-335-574-11	SCREW S 3X8
28	7-682-560-09	SCREW +B 4X6
29	2-335-500-11	CASE
30	7-685-659-19	SCREW +BV 3X8 TP

No.	Part No.	Description
31	7-685-645-79	SCREW +BV 3X6TP
32	*2-335-493-01	GUARD, REAR PANEL
33	7-685-659-79	SCREW +BV 4X8TP
34	7-621-775-10	SCREW +B 2.6X4
35	*2-335-645-01	LABEL, MODEL NUMBER
36	*2-335-492-02	PANEL, REAR
37	*4-863-132-00	HEAT SINK
38	7-623-422-07	L, W, M3
39	*3-701-748-00	CLAMP
40	*2-335-607-01	SHEET, PROTECTION
902	*1-621-415-11	PC BOARD, POWER 1
903	*1-621-416-11	PC BOARD, POWER 2
904	*1-621-417-11	PC BOARD, FINAL 1
905⚠	1-533-209-11	HOLDER, FUSE
906	1-535-676-00	TERMINAL (RED)
907	1-535-676-21	TERMINAL (BLACK)
908	*1-621-414-11	PC BOARD, IN PUT
909	*A-2335-131-A	MOUNTED PCB, DRIVE
910	*1-621-418-11	PC BOARD, FINAL 2
CNJ901⚠	1-560-222-21	INLET, AC
PT1⚠	1-448-991-11	TRANSFORMER, POWER
PT2⚠	1-448-991-11	TRANSFORMER, POWER
S901⚠	1-552-719-12	SWITCH, POWER

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

No.	Part No.	Description
C101	1-102-121-00	CERAMIC 0.0022μ 50V
C201ab	1-124-725-00	ELECT 100 μ 50V
C202ab	1-102-112-00	CERAMIC 330P 50V
C203ab	1-124-725-00	ELECT 100 μ 50V
C204ab	1-136-165-00	FILM 0.1 μ 50V
C205ab	1-102-106-00	CERAMIC 100P 50V
C206ab	1-136-169-00	FILM 0.22μ 50V
C207ab	1-102-951-00	CERAMIC 15P 50V
C208ab	1-136-177-00	FILM 1 μ 50V
C209ab	1-102-106-00	CERAMIC 100P 50V
C210ab	1-102-106-00	CERAMIC 100P 50V
C211ab	1-102-951-00	CERAMIC 15P 50V
C213ab	1-136-169-00	FILM 0.22μ 50V
C214ab	1-136-158-00	FILM 0.027 μ 50V
C215ab	1-136-158-00	FILM 0.027 μ 50V
C216ab	1-136-158-00	FILM 0.027 μ 50V
C217ab	1-136-158-00	FILM 0.027 μ 50V
C218ab	1-130-791-21	FILM 0.068 μ 250V
C219ab	1-136-169-00	FILM 0.22μ 50V
C220ab	1-136-158-00	FILM 0.027 μ 50V
C221ab	1-106-351-00	FILM 0.0022μ 50V
C222	1-106-172-00	FILM 0.001 μ 50V
C223	1-123-332-00	ELECT 47μ 16V
C224	1-123-332-00	ELECT 47μ 16V
C225	1-123-356-00	ELECT 10μ 50V
C226	1-123-356-00	ELECT 10μ 50V
C301ab	1-136-177-00	FILM 1 μ 50V
C302ab	1-123-356-00	ELECT 10μ 50V
C303ab	1-123-356-00	ELECT 10μ 50V
C304	1-123-356-00	ELECT 10μ 50V
C305	1-124-360-00	ELECT 100 μ 50V
C306	1-124-360-00	ELECT 100 μ 50V
C307	1-124-360-00	ELECT 100 μ 50V
C501ab	1-125-372-11	ELECT 8200μ 50V
C502ab	1-125-372-11	ELECT 8200μ 50V
C601	⚠1-161-744-00	CERAMIC 0.01μ 400V
C701ab	1-106-172-00	FILM 0.001 μ 50V
C702ab	1-106-359-00	FILM 0.0047μ 50V
CNJ901	⚠1-560-222-21	3P INLET (AC POWER)
D201ab	8-719-910-65	DIODE HZ6B2L
D202ab	8-719-815-55	DIODE 1S1555
D203ab	8-719-815-55	DIODE 1S1555
D204ab	8-719-815-55	DIODE 1S1555
D205ab	8-719-815-55	DIODE 1S1555
D206ab	8-719-815-55	DIODE 1S1555
D207ab	8-719-200-02	DIODE 10E2
D208ab	8-719-815-55	DIODE 1S1555
D209ab	8-719-200-02	DIODE 10E2
D210ab	8-719-815-55	DIODE 1S1555
D211	8-719-815-55	DIODE 1S1555
D212	8-719-815-55	DIODE 1S1555
D213	8-719-815-55	DIODE 1S1555
D214ab	8-719-815-55	DIODE 1S1555
D215ab	8-719-815-55	DIODE 1S1555

No.	Part No.	Description
D301ab	8-719-815-55	DIODE 1S1555
D302ab	8-719-815-55	DIODE 1S1555
D303ab	8-719-100-35	DIODE RD5.6EB2
D304	8-719-815-55	DIODE 10E2
D304ab	8-719-815-55	DIODE 1S1555
D305	8-719-200-02	DIODE 10E2
D305a	8-719-815-55	DIODE 1S1555
D306	8-719-815-55	DIODE 1S1555
D307	8-719-815-55	DIODE 1S1555
D308	8-719-200-02	DIODE 10E2
D309	8-719-200-02	DIODE 10E2
D310	8-719-815-55	DIODE 1S1555
D501ab	⚠8-719-500-09	DIODE D5FB20F
D601ab	8-719-812-31	DIODE TLR-123
D602	8-719-812-43	DIODE SEL2310G
F101	⚠1-532-203-00	FUSE,GLASS 2A
IC201	8-759-111-68	μPC1237HA
IC301	7-759-937-26	LM1360ON
IC302	7-759-145-58	μPC4558C
IC303	8-759-171-15	μPC7815H
IC304	7-759-179-15	μPC7915H
JK1ab	1-563-363-11	JACK
JK2ab	★1-563-080-11	CONNECTOR
L201ab	★1-442-009-13	COIL,AIR CORE
PT1	⚠1-448-991-11	TRANSFORMER,POWER
PT2	⚠1-448-991-11	TRANSFORMER,POWER
Q201ab	8-759-107-99	TRANSISTOR μPA68HA
Q202ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q203ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q204ab	8-729-199-22	TRANSISTOR 2SA992FA
Q205ab	8-729-199-22	TRANSISTOR 2SA992FA
Q206ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q207ab	8-729-199-22	TRANSISTOR 2SA992FA
Q208ab	8-729-199-22	TRANSISTOR 2SA992FA
Q209ab	8-729-199-22	TRANSISTOR 2SA992FA
Q210ab	8-729-199-22	TRANSISTOR 2SA992FA
Q211ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q212ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q213ab	8-729-199-22	TRANSISTOR 2SA992FA
Q214ab	8-729-127-53	TRANSISTOR 2SC2275P
Q215ab	8-729-118-53	TRANSISTOR 2SA985P
Q216ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q217ab	8-729-199-22	TRANSISTOR 2SA992FA
Q218ab	8-729-199-22	TRANSISTOR 2SA992FA
Q219ab	8-729-184-52	TRANSISTOR 2SC1845FA
Q220ab	8-729-199-22	TRANSISTOR 2SA992FA

No.	Part No.	Description
Q401ab	8-729-107-25	TRANSISTOR 2SD1585L
Q402ab	7-729-383-73	TRANSISTOR 2SC2837Y
Q403ab	8-729-318-63	TRANSISTOR 2SA1186Y
Q404ab	8-729-383-73	TRANSISTOR 2SC2837Y
Q405ab	8-729-318-63	TRANSISTOR 2SA1186Y
R201ab	1-247-713-11	CARBON 1K
R202ab	1-246-529-00	CARBON 220K
R203ab	1-247-724-11	CARBON 8.2K
R204ab	1-247-717-11	CARBON 2.2K
R205ab	1-247-713-11	CARBON 1K
R206ab	1-246-529-00	CARBON 220K
R207ab	1-246-545-00	CARBON 1M
R208ab	1-247-721-11	CARBON 4.7K
R209ab	1-247-717-11	CARBON 2.2K
R210ab	1-247-717-11	CARBON 2.2K
R211ab	1-247-708-11	CARBON 470
R212ab	1-249-465-11	CARBON 47K
R213ab	1-246-529-00	CARBON 1M
R214ab	1-249-463-11	CARBON 27K
R215ab	1-247-708-11	CARBON 470
R216ab	1-247-708-11	CARBON 470
R217ab	1-247-720-11	CARBON 3.9K
R218ab⚠	1-217-399-00	FUSIBLE 100
R219ab⚠	1-217-399-00	FUSIBLE 100
R220ab	1-247-713-11	CARBON 1K
R221ab	1-247-713-11	CARBON 1K
R222ab⚠	1-212-889-00	FUSIBLE 220
R223ab⚠	1-212-889-00	FUSIBLE 220
R224ab⚠	1-212-875-00	FUSIBLE 56
R225ab⚠	1-212-875-00	FUSIBLE 56
R226ab⚠	1-212-875-00	FUSIBLE 56
R227ab	1-217-151-00	METAL PLATE 0.22 2W
R228ab	1-217-151-00	METAL PLATE 0.22 2W
R229ab	1-217-151-00	METAL PLATE 0.22 2W
R230ab	1-217-151-00	METAL PLATE 0.22 2W
R231ab	1-247-713-11	CARBON 1K
R232ab	1-247-713-11	CARBON 1K
R233ab	1-247-713-11	CARBON 1K
R234ab	1-247-713-11	CARBON 1K
R235ab	1-247-704-11	CARBON 220
R236ab	1-247-704-11	CARBON 220
R237ab	1-247-715-11	CARBON 1.5K
R238ab	1-247-715-11	CARBON 1.5K
R239ab	1-249-460-11	CARBON 15K
R240ab	1-249-460-11	CARBON 15K
R241ab	1-246-533-00	CARBON 330K
R242ab	1-212-857-00	METAL OXIDE 10 1W
R243ab	1-212-857-00	METAL OXIDE 10 1W
R244ab	1-247-726-11	CARBON 33K
R245ab	1-247-725-11	CARBON 10K
R246ab	1-247-726-11	CARBON 33K
R247ab	1-247-725-11	CARBON 10K
R248ab	1-249-467-11	CARBON 68K
R249ab	1-247-723-11	CARBON 6.8K
R250	1-247-725-11	CARBON 10K

No.	Part No.	Description
R251	1-246-529-00	CARBON 220K
R252	1-246-529-00	CARBON 220K
R253	1-249-460-11	CARBON 15K
R254	1-247-725-11	CARBON 10K
R255	1-247-712-11	CARBON 820
R256	1-247-719-11	CARBON 3.3K
R257	1-249-463-11	CARBON 27K
R301ab	1-249-469-11	CARBON 100K
R302ab	1-247-713-11	CARBON 1K
R303ab	1-247-726-11	CARBON 33K
R304ab	1-247-726-11	CARBON 33K
R305ab	1-249-469-11	CARBON 100K
R306ab	1-247-710-11	CARBON 560
R307ab	1-247-726-11	CARBON 33K
R308ab	1-247-725-11	CARBON 10K
R309ab	1-247-725-11	CARBON 10K
R310ab	1-249-469-11	CARBON 100K
R311ab	1-247-720-11	CARBON 3.9K
R401ab⚠	1-212-856-00	FUSIBLE 9.1
R402ab⚠	1-212-856-00	FUSIBLE 9.1
R403ab⚠	1-212-856-00	FUSIBLE 9.1
R404ab⚠	1-212-856-00	FUSIBLE 9.1
R701ab	1-247-718-11	CARBON 2.7K
R702	1-247-719-11	CARBON 3.3K
R703		CARBON 150
RV201ab	1-222-249-XX	RES,ADJ 470Ω
RV301ab	1-224-249-XX	RES,ADJ 1K Ω
RV302ab	1-224-254-XX	RES,ADJ 47KΩ
RV901ab	1-237-831-11	RES,VAR 50KΩ(MAIN)
RY101	1-515-356-00	RELAY
S1	⚠1-571-086-11	THERMO STAT
S2	⚠1-571-086-11	THERMO STAT
S901	⚠1-552-975-00	SWITCH,ROTARY(POWER)
SW101	1-553-638-00	SWITCH,SLIDE(LIMITER)
SW102	1-553-638-00	SWITCH,SLIDE(OPERATION)

〔DRIVER BOARD〕

	1-535-139-00	BASE POST 2P
*	1-535-115-00	BASE TERMINAL 2P
*	1-535-116-00	BASE TERMINAL 3P
*	1-535-121-00	BASE TERMINAL 8P

〔FINAL BOARD 〕

*	1-535-116-00	BASE TERMINAL 3P
*	1-535-121-00	BASE TERMINAL 8P

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-701-631-00	BAG POLYTHYLENE
2-054-709-00	BAG POLYTHYLENE
2-335-565-01	BAG POLYTHYLENE
2-335-490-11	MANUAL,INSTRUCTION
⚠1-551-631-00	CORD,POWER

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

English
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